REMARKS

The Pending Claims and the Amendments to the Claims

With the entry of the above amendments, Claims 1-23 remain pending, with Claims 1, 2, and 14 being the pending independent claims. Claims 1, 6, and 23 are amended above. The amendments to Claim 1 include the additional recitation that the tubular bag film is seamless, as disclosed in the specification at, for example, Page 3 line 5. Claim 1 is also amended to recite the bag as having a top which is not covered by the patch, as disclosed in the specification at, for example, Page 3 lines 31-32 and as illustrated in FIG. 1. Claims 22 and 23 are amended by the addition of the recitation that the first and second seal bars each comprise a nichrome wire, as those of skill in the art would recognize from the description of the "annealed nickel chromium 80" at Page 16 lines 11-15 of the specification, as well as by the deletion in Claim 22 of the extraneous language "an average temperature of", which was due to a clerical error, and the change of the word "region" to the word ---vicinity--- for the second seal bar, to make the language of Claim 22 the same for both the first and second seal bars. The amendments to the claims contain no new matter.

The Rejections under 35 USC 112

Claims 1 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase "a bottom region", with the Examiner suggesting the phrase "the bottom". In response, Applicants have amended Claim 1 in accordance with the Examiner's suggested language. The undersigned notes that the Amendment under 37 CFR 1.111 filed 2 January 2003 states that this amendment of Claim 1 had been made, while in fact it was inadvertently omitted. The Examiner's attention to this detail is noted with appreciation.

Claims 2-13 are rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase "a burst strength of at least 26 inches of water", the Office Action stating that inches are not a conventional unit of strength. In response, Applicants direct attention to the amendment of Claim 2 in the Amendment under 37 CFR 1.111 filed 2 January 2003, and to the remarks in the paragraph beginning "Claim 2..." on Page 4 of that amendment. More particularly, Applicants therein amended Claim 2 to recite *the sealed bag* as having the recited burst strength of at least 26 inches of water. Certainly the recitation of the burst strength of a bag in the units "inches of water" is not "unconventional", as inches of water clearly represent a measure of the internal pressure inside the bag without failure. Moreover, Applicants pointed out that this burst pressure recitation is inherently a measure of seal strength. In fact, Applicants expressly so stated on Page 6 lines 21-27 of Applicants' specification: "...The time to failure and burst pressure is [sic] a measure of seal strength." Applicants further point out that the recitation of burst strength in terms of inches of water pressure inherently requires the seal to be capable of withstanding the recited pressure. To this extent, the recitation of the burst pressure is clearly a measure of the strength of the bag, including the strength of the seal which is through the patch as well as through both lay-flat sides of the bag.

Claim 6 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase "wherein the bag has an uncovered top portion", the Office Action going on to state that the meaning of this phrase is unclear, and that for purposes of examination this phrase is assumed to mean "wherein the top of the bag is uncovered". In response, Applicants contend that the phrase "an uncovered top portion" is not unclear. Applicants further note that the Office Action simply

states that this phrase is unclear, without stating precisely why it is unclear. Applicants note that Page 5 lines 9-11 of their specification states that the phrase "uncovered portion of the bag" refers to a portion of the bag which is not covered by the patch. The phrase "the bag has an uncovered top portion" clearly refers to that portion of the bag which is not covered by a patch and which is at the top of the bag. Applicants respectfully request that if this rejection is maintained, that the next Office Action state why the phrase "the bag has an uncovered top portion" renders one of ordinary skill unable to ascertain the metes and bounds of Claim 6.

Claim 23 is rejected under 35 USC 112, second paragraph, as indefinite for the recitation of the phrase "a means for controlling the temperature monitors current and voltage". The Office Action goes on to state that there is insufficient antecedent basis for this recitation in Claim 23 because no basis is established for an electrical heater, and thus no basis for current or voltage. In response, Applicants direct attention to the amendment of Claim 23 to recite the first and second sealing bars as each comprising a nichrome wire. Applicants also point out that Claim 23 depends from Claim 15, which recites the first means for heating as comprising the first sealing bar, and the second means for heating as comprising the second sealing bar. Clearly, with the first and second sealing bars comprising nichrome wire (i.e., an art recognized element of an electrical heater), and with both the first and second sealing bars being elements in the first and second "means for heating", there is clearly basis for the recitation of current and voltage passing through the first and second sealing bars.

The §102(b) Rejection of Claims 1-3, 5-12, and 23 as Anticipated by BRADY et al

In Paragraph 8 of the 9 April Office Action, Claims 1-3, 5-12, and 23 are again rejected under 35 USC 102(b) as anticipated by WO 96/00688, to Brady et al ("BRADY et al"). The 1 August 2002 Office Action, in making this rejection, states that BRADY et al discloses an end-seal patch bag comprising a tubular bag and a heat-shrinkable patch film which is adhered across the entire width of a first lay-flat side of the bag and which also has an overhang region, with the bag having a continuous seal across the entire width of the bag at the bottom of the bag, the seal being through the patch and the bag (page 19 lines 15-31), with the seal being the only seal across the bottom region of the bag (page 30 lines 34-35, page 31, lines 1-7; Figure 11). In the Amendment under §1.111 mailed 2 January, Applicants argued that the 1 August Office Action refers to portions of BRADY et al which are incompatible with one another and therefore that BRADY et al does not anticipate any one or more of Claims 1-3, 5-12, and 23. More particularly, Applicants pointed out that Page 19 lines 15-31 describes a patch bag having a patch which does not extend all the way to the bottom of the bag, with a first transverse seal which is through the bag only, and a second (i.e., "supplemental") transverse seal which is through both the patch and the bag, i.e., two seals across the bag. Applicants also pointed out that FIG. 11 and the description thereof at Page 30 lines 34-35 discloses a "laminated patch bag" in which the patch covers the entire bag, with the only seal across the bag being a seal through both the patch and the bag, and therefore that the supplemental seal arrangement of Page 19 of BRADY et al is incompatible (i.e., not possible for use) with the embodiment of FIG. 11 described on Page 30 of BRADY et al. In reply to Applicants' argument, the 9 April Office Action refers only to the embodiment of FIG. 11 and Page

30 of BRADY et al. The paragraph spanning Pages 4 and 5 of the 9 April Office Action states that the embodiment of FIG. 11 of BRADY et al comprises a seal across the bag and the patch, with the seal being the only seal across the bag, with the seal being across the bottom of the bag.

In response, Applicants first note that Claim 1, as amended above, is directed to an end-seal patch bag which comprises a seamless tubing. The embodiment of FIG. 11 of BRADY et al is an L-seal bag, not an end seal bag, with the bag portion not being a seamless tubing. As such, it is clear that as amended, Claim 1 is not anticipated by BRADY et al.

Claims 2, 3, 5-12, and 23 also are not anticipated by BRADY et al. Applicants contend that BRADY et al does not teach, suggest, or enable a patch bag having a seal through a portion of the bag which is covered by a patch, with the patch bag having a burst strength of at least 26 inches of water.

Applicants point to various passages from BRADY et al which disclose that it is not desirable to seal the inside of the bag film to itself by sealing through the patch, as follows:

> The two end portions of bag 20 are not covered by patches 30 and 32 in order that strong end seals can be made through bag 21, without having to seal through both of patches 30 and/or 32, which would be weaker than sealing through only bag 21. [BRADY et al at Page 19 lines 11-14]
>
> A factory seal is formed between patches, the seal being formed about 1 inch downstream of the downstream end of a pair of patches which are adhered together. In this manner, it has been found that a stronger seal is formed than a seal which is made through the patches. Immediately following the formation of the factory seal, the sealed tubing is cut completely across, and completely through both sides of the tubing, at a position about 0.75 inch downstream of the factory seal, to result in a bag as illustrated in Figures 1 and 2. [BRADY et al, Page 29 lines 26-32]
>
> In the event that a continuous laminate of the "bag film" and the "patch film" is converted into a bag by sealing through the entire laminate, e.g., to result in the patch as illustrated in Figures 11 and 12, described in detail below, it is believed

> that such a process results in a patch bag inferior to the bag as illustrated in Figures 1 and 2, because seals made through the patch film can result in burn through, as well as weaker seals. [BRADY et al, Page 30 lines 8-13]
>
> In this manner, side seals 208 and 210 can be made through the bag film alone, without being made through the patch films, which, as stated above, results in a weaker seal than seals made through the bag film alone. [BRADY et al, Page 30 lines 26-29]

Applicants contend that the above passages from BRADY et al stand as evidence that BRADY et al does not teach or suggest a through-the-patch seal which would allow the resulting patch bag to have a burst strength of at least 26 inches of water. That is, BRADY et al has no teaching of sealing through the patch to make a strong seal either across the bag (e.g., to make an end-seal bag) or along the length of the bag (e.g., to make a side-seal bag), both of which are within the scope of Applicants' Claim 2. The "supplemental seal" disclosed on Page 19 lines 15-31 of BRADY et al is not designed to be a strong seal, but rather is simply designed to keep the bone-in meat product from entering that region of the bag which is not covered by the patch, i.e., where the end-seal is. One of skill in the art would take from the above excerpts from BRADY et al that the supplemental seal would not provide the patch bag with a burst strength of at least 26 inches of water. Moreover, the failure of the supplemental seal, without more, would not result in the bursting of the bag. Thus, the strength of the supplemental seal does not affect the burst strength of the patch bag having the supplemental seal, as the supplemental seal is inward of the end seal which is across the bottom of the bag. For these reasons, patch bag Claims 2, 3, and 5-12 are patentable over BRADY et al. Moreover, for these reasons patch bag Claims 4 and 13 are also patentable over BRADY et al alone or in combination with other documents relied on in previous office actions.

Process Claims 14-23 Are Patentable over the Prior Art of Record

Although process Claim 23 has been rejected as anticipated by BRADY et al, Applicants note that process Claim 23 depends ultimately from Claim 14, which recites both a first means for heating and a second means for heating. All previous office actions have relied upon SAMSON (U.S. Patent No. 3,616,004) for the disclosure of this feature, with Paragraph 12 of the Office Action of 1 August 2002 stating that BRADY et al fails to disclose the first and second means for heating. Thus, the inclusion of process Claim 23 with the §102 rejection of patch bag Claims 1-3 and 5-12 appears to have been an inadvertent error. Moreover, the only rejection of process Claim 23 appears to be the §112 rejection, which has been addressed above with an amendment and remarks. Accordingly, Applicants contend that process Claim 23 is now in condition for allowance.

Turning to the §103 rejection of process Claim 14 as unpatentable over BRADY et al in view of SAMSON (USPN 3,616,004), the 1 August 2002 Office Action admits that BRADY et al does not teach both a first heating means and a second heating means. Moreover, as is apparent from Table II and Table III of BRADY et al (see BRADY et al at Pages 20 and 22, respectively), both the bag film and the patch film are primarily ethylene-based resins, such as linear low density polyethylene (i.e., LLDPE), ethylene/vinyl acetate copolymer (i.e., EVA), and ethylene/butyl acrylate copolymer (EBA), which have melting points not altogether different from one another. However, in SAMSON, it is clear that the sealing method employed, including the heating of upper jaw 3 and lower jaw 4, is for the purpose of making a "particularly uniform and high strength seal" (SAMSON Col. 1 lines 29-31) by carrying out a particular sealing process using films which are

"...each built up of two or more alternating layers of different thermoplastic component polymers having different softening points" (SAMSON Col. 1 lines 7-9), and "...more particularly, the method is used for the sealing of multilayer films having successive layers that are virtually immiscible with each other...layers alternately consist substantially of polyethylene and polyamide..." (SAMSON Col. 1 lines 50-55) so that "...two or more layers of the highest melting polymeric component are fused together..." (SAMSON Col. 1 lines 29-31). Clearly, the multilayer film structures of the bag (and, for that matter, the patch, too) of BRADY et al do not lend themselves to the method employed in SAMSON, because none of the films described in BRADY et al have alternating layers of high melting polymers and low melting polymers. Thus, there is no motivation to use the method of SAMSON to make a seal through the bag and/or patch films of BRADY et al. The motivation to use the method of SAMSON is to cause the layers of high melting polymer to fuse together to make the strong seal, which is not possible in the films of BRADY et al because there are no alternating layers containing with anything approaching the melting point differences between the polyethylene and polyamide of SAMSON. For these reasons, Applicants contend that the person of ordinary skill in the art would not have been motivated to use the sealing process of SAMSON to seal through the patch and bag film to make a patch bag of, for example, FIG. 11 of BRADY et al. The mere disclosure of strong and uniform seals in SAMSON is not enough to motivate the use of aligned heated seal bars of SAMSON to make a heat seal of the films of BRADY et al, when the source of the stronger seals of SAMSON is disclosed in SAMSON as being the fusion of the layers containing the higher melting polymer,

when the films disclosed in BRADY et al cannot possibly result in the fusion of layers containing such high melt point polymers.

Turning to dependent Claims 15 and 17, Applicants note that the 1 August 2002 Office Action states that because SAMSON teaches that the seal bars are used for heat sealing films, the recitation of the seal bar as having a "flat surface" therefore reads on SAMSON. Applicants disagree with this reasoning, but admit that FIG. 1 of SAMSON clearly illustrates seal bars 3 and 4 as having flat surfaces which are aligned with one another. Thus, Applicants contend that SAMSON teaches flat surfaces for *both* of the seal bars, with the seal bars being in alignment with one another. Nevertheless, Applicants contend that Claims 15 and 17 are patentable over BRADY et al in view of SAMSON for the same reasons Claim 14 is patentable over BRADY et al in view of SAMSON (i.e., see arguments above for Claim 14).

Dependent Claim 16, which recites one of the aligned seal bars as having a convex surface, stands rejected over BRADY et al in view of SAMSON further in view of SHABRAM. The 1 August 2002 Office Action refers to Col. 4 lines 25-35 of SHABRAM as disclosing a seal bar having simplified construction, and to Col. 4 lines 2-24 of SHABRAM as disclosing nichrome wire as a heating element for the purpose of heating electrically. The Office Action then concludes that it would have been obvious to have provided the convex surface to the seal bar of BRADY et al and SAMSON. Applicants disagree. Applicants contend that the neither the 1 August 2002 Office Action nor the 9 April 2003 Office Action point out precisely where SHABRAM teaches or suggests a second seal bar having a convex surface which is in alignment with, and oriented towards, the flat surface of the first seal bar. That is, no portion of Col. 4 lines 2-35 appears to

teach or suggest this combination of features, and Applicants respectfully request that the next office action point out the precise location in SHABRAM which teaches or suggests the convex surface feature. A review of FIG. 8 and FIG. 9 of SHABRAM, described in Col. 4 lines 2-35, also failed to reveal the presence of a convex surface on a seal bar. Accordingly, Applicants contend that no prima facie case of obviousness has been made out for Claim 16.

As to dependent Claim 18, the 1 August 2002 Office Action relies upon SHABRAM for the disclosure of seal bars comprising nichrome wire, citing Col. 4 lines 2-24 of SHABRAM. Applicants admit that SHABRAM does disclose "Nichrome ribbon 130" as a "heating element". However, as with Claims 15 and 17, from which Claim 18 depends, Applicants contend that Claim 18 is patentable over the applied art for at least the same reasons that Claim 14 is patentable over the applied art.

Turning next to dependent Claims 19 and 20, which recite at least one of the seal jaw assemblies comprising means for shock absorption (Claim 19) and a means for shock absorption comprising a resilient member (Claim 20), the Office Action rejects both of these claims as obvious over BRADY et al in view of SAMSON. The Office Action refers to seal jaws disclosed in SAMSON at Col. 2 lines 18-25, and to "a metal gauge" disclosed at Col. 2 lines 9-12 of SAMSON. Applicants agree that SAMSON discloses seal jaws 3 and 4, but Applicants disagree that SAMSON teaches or suggests a seal jaw comprising means for shock absorption as recited in Claim 19, and Applicants further disagree that SAMSON teaches or suggests that the means for shock absorption comprises a resilient member. Applicants first note that there is nothing in either office action which indicates why the "metal gauge" would be shock absorbing, not to mention resilient.

Moreover, the phrase "metal gauge" appears to be an error in SAMSON, as it appears that "metal gauge" should have been written as "a metal gauze", i.e., consistent with the disclosure at Col. 1 lines 59-62 ("...a metal gauze...") and Col. 2 lines 22-23 of SAMSON ("...gauze 5"). Moreover, there is no indication in SAMSON that the metal gauze is shock absorbing or resilient. Rather, the undersigned suspects that the purpose of the metal gauze is to provide a rough, irregular surface during sealing, to enhance the fusion of the layers containing the high melting polymers to one another. Such a purpose is certainly not a "means for shock absorbing" as recited in Applicants' Claim 19, or a "resilient member" as recited in Applicants' Claim 20. In fact, it could be considered to be the opposite, i.e., to increase the "shock" of impact from the sealing jaws, in order to produce more mixing of the polymers of the various layers during the sealing process. As a result, Applicants contend that no prima facie case of obviousness has been made out for either of dependent Claims 19 and 20.

Applicants' Claim 21 recites the seal bars as exerting a pressure on the films of from about 50 to 150 psi. While the 1 August Office Action rejects Claim 21 as obvious over BRADY et al in view of SAMSON, it is apparent that which considered in its entirety, SAMSON discloses a "two step" sealing process (see SAMSON at Col. 1 lines 43-46), which in the first step places the films to be sealed under a pressure of 625 kg/cm^2 and a temperature of 140°C, and which in the second step places the films to be sealed under a pressure of 2 to 8 kg/cm^2 and a temperature of 220°C. See Col. 2 lines 33-48 of SAMSON. The first step is a relatively high pressure, low temperature step, while the second step is a relatively low pressure, high temperature stage. In contrast, Applicants' Claim 21 recites a process in which the bars exert a pressure on the films of

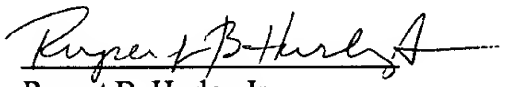
50-150 psi, which equates with 3.53 to 10.6 kg/cm^2. Thus, although there is overlap between the 50-150 psi (= 3.53 to 10.6 kg/cm^2) recited in Applicants' Claim 21 and the pressure of the second stage of SAMSON (i.e., 2 to 8 kg/cm^2), Applicants' Claim 21 does not encompass a process in which the films are placed under the pressure disclosed during the first phase of SAMSON, i.e., a pressure of 625 kg/cm^2, which converts to about 8850 psi. Moreover, Applicants point out that Col. 1 lines 32-36 of SAMSON disclose a minimum pressure of "at least 100 kg/cm^2" for the first heating step, which is a pressure of at least 1,416 psi, which Applicants contend does not teach or suggest their recited pressure range of 50-150 psi. Thus, Applicants contend that the office actions have not established a prima facie case that Claim 21 is obvious over BRADY et al in view of SAMSON.

Applicants' Claim 22, as amended above, recites the first seal bar as reaching a maximum temperature of from about 180F to 400°F in the vicinity of the film being heated, and the temperature of the second seal bar is controlled so that it reaches a maximum temperature of from about 180°F to 400°F in the vicinity of the film being sealed. The 1 August 2002 Office Action rejects Claim 22 as obvious over BRADY et al in view of SAMSON with reference to a temperature of 220°C in SAMSON. In response, Applicants again direct attention to the two step sealing process of SAMSON, and note that SAMSON discloses the second step as heating to a temperature of 220°C, which is the equivalent of 428°F. Applicants note that 428°F is not within their recited range of a *maximum* temperature of 180F to 400°F, and hence that with respect to Claim 22, the office actions fail to set forth a prima facie case of obviousness over BRADY et al in view of SAMSON.

Conclusion

Reconsideration of the patentability of the pending claims is respectfully requested, with a view towards allowance based on the amendments and remarks set forth above. Should there be any questions or comments, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully Submitted,



Rupert B. Hurley Jr.
Reg. No. 29,313
Attorney for Applicant
(864) 433-3247

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